

Monitoring Data RecordProject Title: I-540 Northern Wake Expressway (R-2000AB) COE Action ID: 200021863Stream Name: UT to Kit Creek DWQ Number: 030918City, County and other Location Information: Wake County, Site 6 (Sta.10+41 to 12+76 YRPA-)Date Construction Completed: March 2005 Monitoring Year: (5) of 5Ecoregion: _____ 8 digit HUC unit 03030002

USGS Quad Name and Coordinates: _____

Rosgen Classification: _____Length of Project: 1,299' Urban or Rural: Rural Watershed Size: _____Monitoring DATA collected by: M. Green and J. Young Date: 7/29/10

Applicant Information:

Name: NCDOT Roadside Environmental UnitAddress: 1425 Rock Quarry Road Raleigh, NC 27610Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov

Consultant Information:

Name: _____

Address: _____

Telephone Number: _____ Email address: _____

Project Status: Complete**Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.):** Level 1 2 3Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit States: NCDOT shall perform the following components of Level I monitoring twice each year for the 5 year monitoring period (summer and winter): Reference photos, plant survival, and visual inspection of channel stability. If less than two bankfull events occur during the first 5 years, NCDOT shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the 5 year monitoring period, the USACE, in consultation with resource agencies, may determine that further monitoring is not required.

Section 1. PHOTO REFERENCE SITES*(Monitoring at all levels must complete this section)***Total number of reference photo locations at this site:****5 photo point locations, 2 photos taken at each location****Dates reference photos have been taken at this site:** 9/12/06, 3/14/07, 8/9/07, 1/14/08,6/11/08, 1/28/09, 7/6/09, 1/15/10, 7/29/10**Individual from whom additional photos can be obtained (name, address, phone):** _____Other Information relative to site photo reference: A site map is included with this report showing the photo point locations.If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.

Section 2. PLANT SURVIVAL

Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

The planted vegetation has not thrived in all areas along the stream relocation due to the limited initial planting into the Triassic Rock but the majority of the stream relocation is vegetated with some hardwood species.

Estimated causes, and proposed/required remedial action: _____

ADDITIONAL COMMENTS: Planted vegetation noted onsite at the stream relocation at permitted Site 6 includes green ash, tulip poplar, sycamore, water oak, and black willow. Other vegetation noted onsite consisted of goldenrod, baccharis, pokeberry, sweetgum, ragweed, woolgrass, cattails, fennel, *Juncus* sp., lespedeza, silky dogwood, and various grasses. NCDOT proposes to discontinue plant survival monitoring at the UT to Kit Creek stream relocation.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

The stream is stabilized for the Year 5 Summer evaluation, except for a crossvane at Sta. 2+00 –Stream 1- (downstream of Photo Point #4) that had water piping under the crossvane at the time of monitoring. The stream bed consists of mainly Triassic Rock which is a contributing factor to the water flowing under this crossvane. There was also a low flow of water at the time of monitoring. A beaver dam was located on site at Sta. 0+90 (next to Photo Point #2). USDA has been contacted to trap the beavers and breach the dam. There have been a total of six bankfull events visually documented during the five year monitoring evaluation. The dates the bankfull events were visually noted are as follows: 9/12/06, 3/14/07, 8/9/07, 1/14/08, 6/11/08, 1/28/09, 7/6/09. NCDOT proposes to discontinue channel stability monitoring at the UT to Kit Creek stream relocation.

Date 7/29/10	Station Number 0+90 –Stream 1- (Additional Photo)	Station Number 2+00 –Stream 1-	Station Number	Station Number	Station Number
Structure Type		Crossvane			
Is water piping through or around structure?		Water piping under crossvane			
Head cut or down cut present?					
Bank or scour erosion present?					
Other problems noted?	Beaver dam noted				

Section 4. DEBIT LEDGER

The entire UT to Kit Creek stream mitigation site was used for the R-2000AB project to compensate for unavoidable stream impacts.

UT Kit Creek



Photo Point #1 (Upstream)



Photo Point #1 (Downstream)



Photo Point #2 (Upstream)



Photo Point #2 (Downstream)



Photo Point #3 (Upstream) Larger Beaver Dam



Photo Point #3 (Downstream)

UT Kit Creek



Photo Point #4 (Upstream)



Photo Point #4 (Downstream)



Photo Point #5 (Upstream)



Photo Point #5 (Downstream)



Photo of Beaver Dam at Sta. 0+90 –Stream 1-

UT Kit Creek R-2000AB Wake County

